

# SUPPLEMENTAL REMOVABLE OUTERSOLE FOR FOOTWEAR

## Technical Field

The present invention regards a supplemental removable outersole for  
5 footwear. More particularly the present invention regards a supplemental  
removable outersole having athletic spikes or grips that can be releasably  
secured to the sole of footwear for athletic use.

## Background

10 Cleated or spiked athletic shoes often have their spikes or cleats secured  
to a rigid flat sole. These rigid soles impart at least two functions. They provide  
an outside surface for the spikes or cleats to be mounted to and they provide a  
foundation for the construction of the upper portions of the shoe. The outside  
surface of the sole, exposed to the outside environment, is typically an  
15 uncovered and exposed rigid plastic designed to withstand external impacts.  
Comparatively, the inside surface of the sole, in contact with an athlete's foot, is  
typically covered with a layer of cloth or other material to provide a degree of  
cushioning. Despite this covering, however, the inside surface of the rigid flat  
sole may irritate or otherwise injure the foot of the wearer. For athletes, who  
20 wear these athletic shoes over prolonged periods of time, their feet may rub  
against the unyielding rigid inside surface, grazing their feet and leading to the  
formation of calluses and blisters. In addition, the flat bottoms can promote  
premature foot fatigue and flatten the wearer's foot due to the lack of arch  
support. Moreover, in younger athletes, whose feet are still developing, the  
25 problem is even more troublesome as the lack of support may not only irritate  
and fatigue the athletes foot but may also lead to irreparable injuries of their feet.

## Summary Of The Invention

The present invention is directed to supplemental removable outersoles  
30 for athletic footwear. In one embodiment of the present invention, a removable  
outersole covering for the treaded bottom of athletic footwear is provided. In this

embodiment the outersole includes: an elastically deformable band defining a continuous loop, the band having a top edge and a bottom edge, the bottom edge of the band forming the shape of the perimeter of the treaded bottom of the athletic footcovering, a sole surface coupled to the bottom edge of the band, the sole surface configured in the shape of the treaded bottom of the athletic footcovering; and a plurality of sport cleats protruding from the bottom side of the sole surface.

In another embodiment of the present invention athletic footwear having a top surface is provided. This footwear may include a permanent sole; a removable outersole covering the permanent sole; a plurality of sport cleats protruding from the removable outersole; and an elastically deformable band secured to the entire perimeter of the removable outersole, the elastically deformable band sized to removably secure the removable outersole to the permanent sole.

#### **Brief Description Of The Drawings**

Fig. 1 is a rear side isometric view of an athletic footcovering and removable supplementary outersole in accord with an embodiment of the present invention.

Fig. 2 is a rear side isometric view of the athletic footcovering and removable supplementary outersole from Fig. 1 after the supplementary outersole has been secured to the athletic shoe.

Fig. 3 is a rear side isometric view of a removable supplementary outersole and a rear bottom isometric view of an athletic footcovering in accord with an alternative embodiment of the present invention.

Fig. 4 is a front plan view of the athletic shoe and removable supplementary outersole of Fig. 3.

Fig. 5 is a rear plan view of the athletic footcovering and the removable supplementary outersole of Fig. 3.

Fig. 6 is an isometric top view of a removable supplementary outersole in accord with another alternative embodiment of the present invention.

Fig. 7 is an isometric top view of a removable supplementary outersole mounted on an athletic footcovering in accord with another alternative embodiment of the present invention.

*5* Detailed Description

Fig. 1 is a side isometric view of athletic footwear or footcovering 10 and a supplementary removable outersole 15 in accord with an embodiment of the present invention. The athletic footcovering 10 in this embodiment has a toe cap 13, a bottom tread 12, and a side molding 11, all made from injected rubber.

10 These components may also be made from polyvinyl chloride and certain durable foams, while the toe cap may also be made from canvas. Moreover, other materials may also be used to manufacture these components.

The removable supplementary outersole 15 in this embodiment has a sole plate 17 with a bottom surface 19 having cleats 18 screwed to it. The  
15 supplementary outersole 15 also has a side elastic border 16 with a top edge 101 and a bottom edge 102, the bottom edge 102 being glued to the plate 17. The plate 17 in this embodiment has been made from a rigid plastic while the elastic border has been made from rubber. The removable supplementary outersole 15 has been sized to fit underneath and elastically secure itself to the bottom of the  
20 athletic footcovering 10.

*Ins a* ~~1. In use the removable supplementary outersole 15 may be placed beneath~~  
25 the athletic footcovering 10 as shown by arrows 14. The elastic border may then be stretched while the bottom tread 12 of the athletic footcovering 10 is slid towards and comes in contact with the top surface of the plate 17. Once the tread 12 has been firmly placed against the top surface of the plate 17 the elastic border may be released and the athletic footcovering and removable outersole combination is ready for use. By adding the supplementary removable outersole 15 to the athletic footcovering 10, the athletic footcovering may now be worn as a cleated shoe. Thus the athletic footcovering may be worn either with or without  
30 the removable outersole 15. When the outersole 15 is not on the athletic footcovering the athletic footcovering may be used for day to day activities and

when the removable outersole 15 is added to the athletic footcovering 10 it may be used for athletic competitions requiring spikes or cleats such as soccer, golf, and football. The treaded bottom of the athletic footcovering allows the shoe to also be worn without the outersole 15. This treaded surface may include rubber, foam and other surfaces and may be both patterned and unpatterned.

The plate 17 is sized for the specific athletic footcovering 10 in this embodiment although it may be sized to cover a variety of athletic footcoverings, the sizes changing in both configuration and in foot size. The outersole 15 may be sized to fit multiple configurations by increasing the height of the elastic border or otherwise adjusting its configuration to conform to a wider variety of athletic footcoverings including both sneakers and sandals as well as other types of athletic footwear.

Fig. 2 is a side isometric view of the athletic footcovering 10 and the supplementary removable outersole 15 after they have been combined in accord with an embodiment of the present invention. As can be seen in Fig. 2 the top edge 101 of the elastic border 16 does not extend past the top rim of the side molding 11 of the athletic footcovering 10. It is preferred in this embodiment to push the tread 12 into the outersole 15 until it come in contact with the top surface of the plate 17 which is hidden behind the elastic border and beneath the treads 12.

Fig. 3 is a bottom isometric view of an athletic footcovering 20 and a top isometric view of a supplementary removable outersole 25 in accord with an alternative embodiment of the present invention. Evident in Fig. 3 is the side molding 21, the treads 22, the cleats 28, the elastic border 26, the top surface of the plate 27 and the bottom surface of the plate 29.

Fig. 4 is a front elevation of the athletic footcovering 20 and removable outersole 25 of Fig. 3. The profile of the cleats 28 is clearly evident in this view. Also evident are the side molding, the treads 22, the elastic border, and the top surface of the plate 27.

Depending upon the desired sport, the cleats located underneath the plate may be removed and substituted for metal spikes, soft spikes of any other gripping system that may be appropriate for the sport to be played.

Moreover, while an athletic footcovering has been described in the above  
5   embodiments a low-heeled shoe may instead be used with the removable  
outersole being tiered to accommodate the heel. The removable outersole may,  
in this embodiment, contain soft spikes. Thus, in this embodiment, the  
removable outersole may convert an ordinary street shoe into a shoe suitable for  
golf.

10       Fig. 5 is a rear elevation of the athletic footcovering 20 and removable  
outersole 25 of Fig. 3. As is evident in this view, the elastic border 26 has a  
tapered cross-section. Also evident in this view is that the threads 22 rest  
against the top surface 51 of the plate 27 in this embodiment and that the elastic  
border may be the sole means for attaching the outersole 25 to the footcovering  
15   20.

20       Fig. 6 is a top isometric view of a supplementary removable outersole 60  
in accord with another alternative embodiment of the present invention. The  
cross straps 61, anchored to the elastic border 66 is clearly evident. These  
straps 61 may be employed in this embodiment to further secure the outersole 60  
to a shoe. The straps 61 may be made from any elastic material and may be  
glued to side of the border 66 or may be releasably secured to the elastic border  
through a snap or other securement means. Moreover, rather than using the  
straps illustrated in Fig. 6 laces or other securement means may be used to  
supplement the attachment of the removable outersole 60 to a shoe (which is not  
25   shown).

30       Fig. 7 is a rear side isometric view of another alternative embodiment of  
the present invention. In this embodiment the supplemental releasable outersole  
70 is further secured to the athletic footcovering 79 with a toe cap 71 in addition  
to the strap 72. The toe cap 71 working in conjunction with the strap 72 can be  
configured in innumerable configurations to help secure the releasable outersole  
70 to the athletic footcovering 79. The toe cap is advantageous because it can

facilitate the securement of the outersole 70 to several lengths of shoe. The toe cap 71 and the strap 72 may be formed in conjunction with the rest of the releasable outersole 70 or alternatively the toe cap 71 and the strap may be formed separately from the outersole 70 and may later be secured to the shoe with snaps or some other fastening means.

*Insa 2*  
*1a2* Also evident in Fig. 7 are the elastic border 73 and the turf knobs 74. As can be seen the elastic border is taller in this embodiment than in the previous embodiments and completely covers the lower portion of the athletic footcovering. In addition rather than having the spikes or cleats of the previous embodiments the removable sole 70 in this embodiment contains a plurality of knobs 74 protruding from its lower surface. These knobs are preferably formed as surface protrusions during the manufacturing of the removable outersole 70.

*92*  
A supplemental removable outersole for athletic footwear has been provided. While various embodiments have been presented above other embodiments are also plausible without straying from the spirit or scope of the present invention.